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ABSTRACT

To assist school administrators and guidance personnel in providing job placement services, a study was conducted to: (1) develop a model design for a school-based job placement system, (2) identify students to be served by the model, (3) list specific services provided to students, and (4) develop job descriptions for each individual responsible for operating the system. Forming the developmental basis for the school-based job placement model are these components: (1) the overall educational system, (2) job openings developed cooperatively by the educational system and the Bureau of Employment Security, (3) cooperation between the educational system and the Bureau of Employment Security in matching students with employment opportunities, (4) follow-up of students, and (5) feedback of information to provide input for program improvement. The model is specifically concerned with that part of a differentiated guidance staff charged with the responsibility of working cooperatively with the Bureau of Employment Security in job development and job placement. This handbook describes the procedures followed in developing the model, implementation strategies, securing information about student's characteristics and job requirements, developing a computerized career planning and job matching system, and evaluating a job placement service system. (SB)

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School-Based Job Placement Service Model

A PROPOSED HANDBOOK FOR

SCHOOL ADMINISTRATORS AND COUNSELORS

AND

BUREAU OF EMPLOYMENT SECURITY PERSONNEL

Pennsylvania Department of Education
Bureau of Vocational Technical
And Continuing Education
Research Coordinating Unit

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FINAL REPORT

Project Number: 19-1044

SCHOOL-BASED JOB PLACEMENT SERVICE MODEL: PHASE I, PLANNING

Mr. Ralph M. Layman
Director, Lancaster County
Area Vocational Technical Schools

Dr. Stephen J. Franchak
Project Initiator, Research Coordinating Unit
Pennsylvania Department of Education

Mr. Garland E. Gingerich
Principal Investigator

Mr. Kenneth R. Harrold
Project Director

Mr. Robert Turner
Assistant Project Director

Brownstown Area
Vocational-Technical School
P. O. Box 435
Brownstown, Pennsylvania 17508

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Pennsylvania Department of Education
Bureau of Vocational, Technical and Continuing Education
Research Coordinating Unit
Harrisburg, Pennsylvania 17126

FOREWORD

This study was conducted to fill a void existing in many school systems, the lack of a defined system or guidelines for establishment of an effective job placement service for students. Educators considering job placement as a part of the school's responsibility should find this final report informative. An attempt is made to give insight and understanding into the many components needed to implement a school-based job placement system.

The basic objective of this study is to develop a system providing local districts with information about job openings not available to them in the past. By implementing concepts of this school-based job placement system, schools will serve students entering the world of work as adequately as they now serve students pursuing higher education.

Although the content of this report is intended to assist school administrators and guidance personnel, educational planners and board of education members will find the information about a school-based job placement system relevant to improving school accountability. It also outlines a cooperative working relationship between the Pennsylvania Bureau of Employment Security and the local school district(s).

It is our hope that these guidelines will be useful to the educational community in developing a school-based job placement system.

Garland E. Gingerich
Principal Investigator

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The personnel responsible for developing this model were Principal Investigator, Mr. Garland Gingerich, Principal, Brownstown Vocational-Technical School; Project Director, Mr. Kenneth R. Harrold; and Assistant Director, Mr. Robert Turner.

A debt of gratitude is extended to Mr. Ralph M. Layman, Director, Lancaster County Area Vocational-Technical Schools, and the Lancaster County Area Vocational-Technical School Committee for their cooperation in providing facilities in which to conduct the study. Credit must also be extended to these individuals for their valuable suggestions and contributions.

Lillian Buckingham	-	Department Head, Placement Service, Baltimore Public Schools
Young Hines	-	Job Placement Counselor, Newark High School
William Kaskow	-	Supervisor, Vocational Guidance Division of Vocational Education, State of New Jersey Department of Education
Jiin-Rong Ko, (Dr.)	-	Vocational Education Research Specialist, Rutgers University
Robert G. Lamping	-	Director, Occupational Vocational and Technical Education, Pittsburgh Public School System
Ralph M. Layman	-	Director, Lancaster County Area Vocational-Technical Schools

John A. Rebert	-	Coordinator of Vocational Guidance, Pennsylvania Department of Education
Walter Stein	-	Supervisor, Occupational Information and Career Services, Department of Public Instruction, Delaware
Arthur H. Schwartz	-	Director, Placement and Technical Services, Pennsylvania Department of Labor and Industry, Bureau of Employment Security
Thomas L. Trechel	-	Consultant, Systems Analyst

Kenneth R. Harrold
Project Director

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DEFINITION OF TERMS

Bureau of Employment Security (BES)

The Bureau of Employment Security is a branch of the Pennsylvania Department of Labor and Industry whose objectives are to seek employment for prospective employees through interviews, counseling, training programs, and employer contact. They also pay out unemployment claims to those who qualify, and give out information pertaining to labor statistics and employment needs.

Career Resource Center Specialist

A specialist who directs the school's career resource center is a career resource specialist. The center contains career development materials that are accessible to students to assist them in the career selection. All media are utilized to supply students with information about the characteristics of jobs and careers that exist in the labor market.

Career Guidance Counselor

A career guidance counselor is a person trained in guidance procedures, who assists pupils in educational and career planning and choices. He helps students recognize their

potentialities through the choice of proper academic and vocational studies in order that they may attain an education that will prepare them to enter the world of work in the career of their choice.

Career Placement Specialist

The career placement specialist is a member of the educational staff who cooperates with the Bureau of Employment Security in matching suitable job openings with individual graduates and early school leavers with their marketable skills. This person is the linking agent between the school and the Bureau of Employment Security. He provides major assistance in the job placement of students and directs the follow-up component of employed graduates.

Craft Advisory Committee

The Craft Advisory Committee is a group of local craftsmen selected from a specific trade or occupation, appointed to advise the school on matters pertaining to teaching the particular occupation. Generally, the committee should include an equal number of representatives of labor and management (1, p. 17).

Disadvantaged Student

Disadvantaged students have academic, socioeconomic, cultural or other handicaps that prevent them from succeeding in vocational education or consumer and homemaking programs designed for persons without such handicaps, and who for that reason require specially designed educational programs or related services. The term includes persons whose needs for such programs or services result from poverty, neglect, delinquency, or cultural or linguistic isolation from the community at large, but does not include physically or mentally handicapped (1, p. 19).

Early School Leavers

Students who discontinue their association with the secondary educational system before the time of graduation are early school leavers. Their leaving the school system may be for disadvantaged or personal reasons.

Feedback

Feedback refers to the information obtained by the career placement specialist from students who were selected by random sampling, and their employers. This data is obtained for purposes of evaluating how well the educational program prepares the individual for the world of work.

Follow-Up

Follow-up is the procedure used by the school to gather information about individuals served by the model. The information is used in job adjustment assistance and will be gathered from employer and employee.

Handicapped

Handicapped refers to persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired persons who by reason thereof require special education and related services (1, p. 32).

Job Placement Assistance

The combined efforts of the career placement specialist and the Bureau of Employment Security in assisting students to match their capabilities with available jobs is termed job placement assistance.

School-Based Job Placement Service

A school-based job placement service is a system developed for school and Bureau of Employment Security personnel to cooperatively assist students to enter the world of work.

SECTION I

STATEMENT OF THE PROBLEM AND BACKGROUND

Introduction

Traditionally, guidance counselors in public schools have been criticized for providing services to a select few students at the expense of the majority. Specifically, they have been charged with aiding those students bound for higher education while ignoring those students bound for immediate employment. These accusations have been essentially unfair in many instances because guidance counselors have not had the experience, training, or information to assist students entering the world of work. This model will delineate a system to fill that void.

The successful job placement process matches the interests and capabilities of the student to the requirements of the job, leading to a satisfying career in the world of work. This is an underlying assumption of the project.

Venn, former Associate Commissioner of Adult and Vocational Education, U. S. Office of Education, recognized the school's responsibility for job placement as early as 1966, saying that schools should accept the responsibility for helping the student by operating a full-time job placement service

(21, p. 17). However, no specific guideline(s) or model was presented so that education could, in fact, satisfy this need.

Methods by which a job placement system can be implemented in the secondary schools of Pennsylvania are outlined in this model. The job placement system described in this report is flexible so that it may be adapted to varying local geographic conditions and educational systems. A job placement system must be based upon local socioeconomic and demographic data; occupational needs, student qualifications and aspirations; and local geography and population. These considerations are necessary to successfully determine specific model components, such as the budget and staff requirements necessary to implement a job placement system.

Need

Much has been written about job placement assistance for the worker entering the labor market for the first time. Automation and technological change, according to Borow, give added dimensions to career guidance. He states:

> We must make a better match between the jobs we now have and will have and the people available to fill them .... Vocational guidance is the process of assisting the individual to choose an occupation, prepare for it, enter upon and progress in it.... We are only beginning to understand the nature of work and jobs under conditions of automation and technological change.... The work of the vocational guidance profession must fan out much more extensively from its current central point of operations (2, p. 170).

More recently, Sydney P. Marland, U. S. Commissioner of Education, writing in a booklet, Career Education, has said essentially the same thing:

> Educators must be bent on preparing students either to become properly and usefully employed immediately upon graduation from high school.... Placement services in the school system will assist every student, especially the student leaving before he completes the 12th grade, to plan the next step in his development. Job entrance will be just as important as college entrance to counselors and teachers. Skill credentials, universally recognized, will be just as valued as the commonly accepted credentials for college entrance. (17, pp. 3, 6)

Finding employment is definitely a problem for youth. This, in itself, should indicate a need for a school-based job placement system. Unemployment data for youth, 16 to 19 years old, is an indicator that students need assistance in locating job openings. The United States Department of Labor reports in Employment and Earnings that in January, 1972:

> The unemployment percentage for all adult men was 4.4 percent, married men 3.3 percent, adult women 5.8 percent and teenagers 17.5 percent. (20, p. 2)

Educators have long recognized this problem. In 1964 Venn stated:

> Finding employment for young workers - entering at the rate of 50,000 a week - at a time when the new technology is reducing the traditional entry jobs poses grave educational, economic, and social problems even to a nation as resourceful as the United States.... The pressures of the economy and the population necessitate that national education and employment policies go hand in hand.... (22, p. 129)

Pursuant to Venn's statements are some facts gathered by the Educational Systems Research Institute of Pittsburgh,

Pennsylvania. This data was gathered in surveys of vocational program graduates conducted in Pennsylvania by the Institute for the Bureau of Vocational-Technical and Continuing Education.

These surveys were for the 1968 (4, Sec. 3, p. 1), 1969 (5, Sec. 3, p. 5) and 1970 (6, Sec. 3, p. 12) classes. Table I reflects the methods used by vocational graduates to secure their first full-time job. In most instances these are students who have saleable job entry skills.

It should be noted that only 25.9% of the 1968 graduates, 19.1% of the 1969 graduates and 20.2% of the 1970 graduates gave credit to public agencies, school personnel and Department of Labor personnel for assistance in securing their first job.

Table I

Follow-Up Survey Results

	1968 Graduates		1969 Graduates		1970 Graduates	
	N	%	N	%	N	%
On my own, without anyone's help	1064	35.49	1217	33.7	1290	29.0
Private Employment Agency	79	2.64	101	2.8	127	2.9
State Employment Agency	159	5.30	180	5.0	167	3.8
Through Parents or Relatives	259	8.64	262	7.3	331	7.4
Through Personal Friends	281	9.37	404	11.2	530	11.9
Already had Job with Employer	460	15.34	874	24.2	1187	26.7
Through Vocational Teachers	351	11.71	329	9.1	474	10.7
Through School Counselor	89	2.97	96	2.7	111	2.5
Through School Placement Service	179	5.97	82	2.3	142	3.2
Other than above	77	2.57	68	1.9	85	1.9
	2998	100.00	3613	100.2*	4444	100.0

* Adds to more than 100% due to rounding of numbers

In addition to job placement assistance and job development the model also is concerned with follow-up and feedback.

Schools, as a result of increased emphasis on accountability, need to evaluate both the process and the product of education. A job placement system incorporating follow-up and feedback components will enable schools to systematically do a more effective process and product evaluation.

The Pennsylvania Bureau of Vocational, Technical and Continuing Education has a state wide follow-up system (Vocational Education Management Information System, VEMIS) and feedback program for vocational education. A purpose for collecting this data is to use it as a basis for valid product and process evaluation. However, VEMIS data from the follow-up component is not used for job adjustment assistance as defined for the purposes of this model.

The need for an effective school-based job placement system is apparent.

Procedure

In order to identify the relevant sources of information for this model the material reviewed was grouped into the following four categories:

1. Available publications related to school-based job placement service models.
2. Other models currently in operation in Pennsylvania and other states.
3. Individuals knowledgeable about school-based job placement service models.
4. Surveys of selected business and industrial plants.

The theoretical structure of this model was drawn from the writings of Borow, Crites, and Marland.

Borow provided information on how man relates to his world of work. Crites focused on how individual traits and factors relate to vocational behavior. The point of view that placement services in the school should assist students who are early school leavers, as fostered by Marland, was helpful in writing this model.

Information was gleaned from the Vocational Guidance Quarterly, The Counseling Psychologist, American Vocational Journal, Personnel and Guidance Journal, American Educational Research Journal and the Journal of College Placement. Several

dissertation abstracts were reviewed for guidelines. An extensive study was conducted through the use of microfiche provided by the Vocational Education Information Network (VEIN).

Three school-based job placement systems were observed at Pittsburgh Public Schools, Pennsylvania; Newark High School, Delaware; and Philadelphia Public Schools, Pennsylvania.

In addition to the models observed, literature pertaining to models was also scrutinized and information was obtained from the following: Department of Education, Trenton, New Jersey; Baltimore City Schools, Baltimore, Maryland; Department of Public Instruction, Dover, Delaware; Vocational Guidance Service, Houston, Texas; Department of Education, Atlanta, Georgia; Los Angeles City Schools, Los Angeles, California; Seattle Public Schools, Seattle, Washington; and State Department of Education, Baltimore, Maryland.

Additional information was provided by personnel from Education, Department of Labor and Industry, Manufacturers' Association, Labor Union, business and industry, and students.

SECTION II

DEVELOPMENTAL PROCEDURES

Philosophy

A first step to be undertaken in initiating any new educational program is the development of a philosophy for that program. In this case a philosophy should be developed providing a theoretical framework for a commitment to establish and operate a job placement service.

This philosophy should, in part, focus on the concept that students be accepted as individuals and recognized for their unique interests and capabilities. These characteristics should be considered and utilized to assist students in finding a suitable job. Additionally the philosophy must also focus on the concept that job development is an important part of a school-based job placement system.

Statement of Project Goals

The goals of the school-based job placement project are:

1. To develop a system for identifying job openings.
2. To develop a system for informing students about job openings.

3. To develop a system for matching students with jobs.
4. To develop a system for follow-up and feedback.

Specific Objectives of the Project

The specific objectives of this project were:

1. To develop a model design for a school-based job placement system.
2. To show schematically the model design.
3. To identify students to be served by the model.
4. To show how the instructional program relates to a school-based job placement system.
5. To list specific services provided to students by a school-based job placement system.
6. To develop job descriptions for each individual responsible for operating a school-based job placement system.
7. To identify areas of cooperation between the career placement specialist and the designated personnel from the Bureau of Employment Security.

Model Design

The success of a school-based job placement system centers around five primary components that will determine the effectiveness of the system. They are:

1. The overall educational program.

2. The job openings developed cooperatively by the educational system and the Bureau of Employment Security.
3. The cooperation between the educational system and the Bureau of Employment Security in matching students with employment opportunities.
4. The follow-up of students to assist them in work adjustment.
5. The feedback of information to provide input for improving the educational program.

These provide the basis for the development of the system linking the Bureau of Employment Security and the local school district(s). This cooperative system should result in improved matching student interests and capabilities with job openings.

This model is concerned with that part of a differentiated guidance staff charged with the responsibility of working cooperatively with the Bureau of Employment Security in job development and job placement. For the purposes of this model, this individual will be called a career placement specialist.

The career placement specialist will also be charged with providing follow-up services for the student and feedback information to the school as shown in Figure 1. As a member of the school's guidance staff, he will cooperate with the

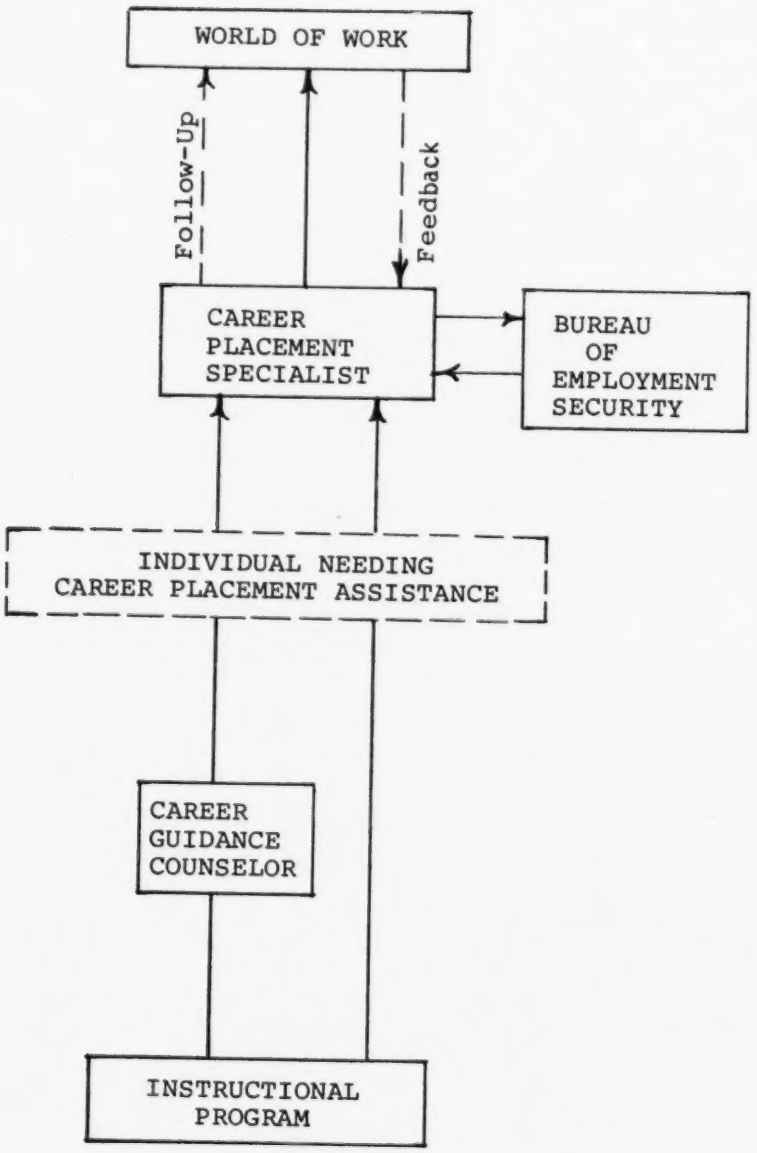


Figure 1

Model for Job Placement Assistance

Bureau of Employment Security in job placement assistance and job matching.

The career placement specialist can effectively meet the needs of students seeking help in finding a job. Figure 2 shows how a school guidance staff can work cooperatively with the career placement specialist in job placement assistance.

Students to be Served

The students to be served are all students who are graduates or early school leavers from any secondary school. Graduates are defined as any student who completes the requirements for a secondary school diploma. Early school leavers are defined as dropouts.

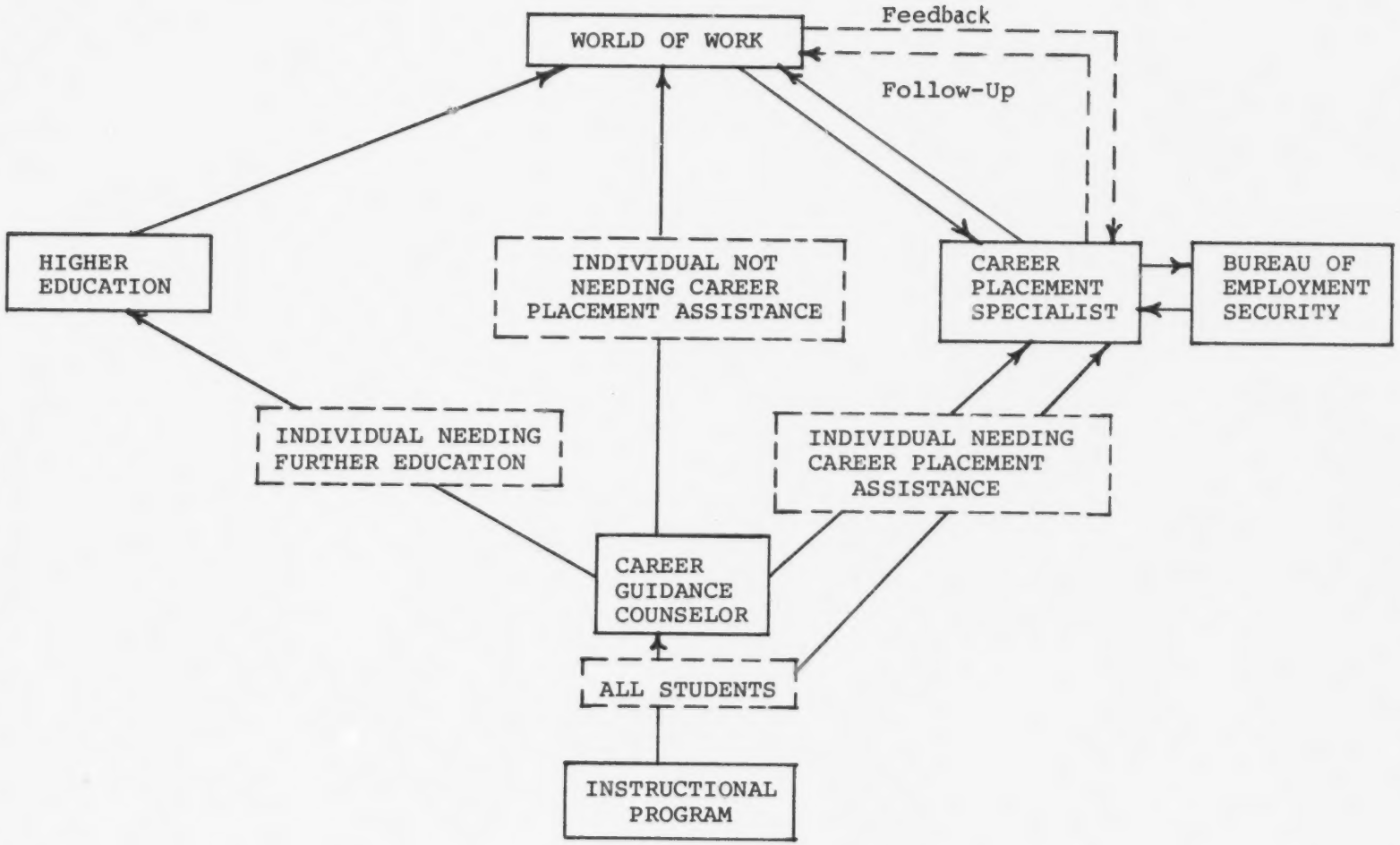


Figure 2

A School-Based Job Placement System for
Assisting All Individuals to Enter the World of Work

Personnel Roles

The Bureau of Employment Security is responsible for locating job openings and cooperating with the career placement specialist in matching individuals with potential employment opportunities.

There should be a designated individual within the Bureau of Employment Security serving as liaison between the Bureau of Employment Security office and the school's career placement specialist.

The Bureau of Employment Security liaison person will:

1. Compile a list of names and addresses of all businesses and manufacturers (employers) in the area. Special effort must be made to contact small businesses as these are frequently the primary sources for job entry employment.
2. Make personal contacts with employers, developing a list of employment opportunities.
3. Make use of auxiliary sources for possible job openings, such as job bank book, newspaper ads, teachers, labor unions, craft committees, among others.
4. Appraise job openings and prepare a directory of openings.
5. Provide career placement specialist with a daily directory of job openings.
6. Provide career placement specialist with job bank book daily. Job bank book is to be limited to a list of jobs

requiring entry level skills.

7. Work cooperatively with employers, career placement specialists, career guidance counselors, school administrators and teachers.
8. Compile and distribute information concerning employment trends in the area to the career placement specialist.

The career placement specialist is responsible for three major areas: Job placement assistance, follow-up and feedback.

The career placement specialist will:

1. Interview graduates in relation to job placement with an employer.
2. Interview early school leavers and offer assistance in job placement.
3. Plan programs in cooperation with teachers and others for dissemination of occupational information.
4. Provide assistance to the career guidance counselor in identifying up-to-date information concerning occupational and advanced educational opportunities.
5. Cooperate with career center specialist to identify and develop occupational information for the career information center.
6. Review the employment opportunities and trends, as compiled by the Bureau of Employment Security.

7. Disseminate lists of companies and assist teachers in planning field trips, visual aids, assemblies, as well as visits to the school by potential employers.
8. Cooperate with the Bureau of Employment Security in arranging job placement interviews with prospective employers.
9. Conduct school career days, job fairs, and career clubs.
10. Develop annual and long range program plans.
11. Conduct follow-up surveys.
12. Coordinate a feedback loop.

Areas of Cooperation

In order for the school-based job placement system to be successful there has to be cooperation between the designated personnel from the Bureau of Employment Security and the career placement specialist. Some areas of cooperation are:

1. Shared lists of job openings.
2. Development of job openings for students with special needs such as handicapped students.
3. Enrollment of students in special programs that operate within the frame work of the Bureau of Employment Security. Some of these programs are: the Job Corps, MDTA Institutional Training, MDTA On-The-Job Training (OJT), MDTA Part-Time and Other Training, Manpower Employment Assistance and Training Act, the Neighborhood Youth Corp (NYC) Out-of-School Program, Opportunities Industrialization

Centers (OIC), Public Service Careers (PSC) and Vocational Rehabilitation.

4. Matching students with jobs.
5. Communicating to assure that job openings are current and valid.

Personnel Qualifications

1. Qualifications of liaison personnel from the Bureau of Employment Security:
   a. Certification - as required by the Bureau of Employment Security.
   b. Experiences in business, industry, personnel work, or education as part of the job development specialist's background.
   c. Skill in contacting employers.
   d. Ability to develop rapport with employers, and school personnel.
   e. A good self-concept and belief in the value of a school-based job placement system.
   f. Vision and imagination about job placement.
   g. An understanding of the world of work.

2. Qualifications of a career placement specialist:
   a. Certification - at the present time there are no Pennsylvania certification requirements for a career placement specialist.

b. Interest in each student as an individual and a willingness to accept them with their interests and capabilities.

c. Able to develop rapport with students.

d. A knowledge of business, industry and education.

e. Assist students to assess options about their education and employment plans.

f. Skill in advising students about specific jobs in a labor market area.

g. Able to define job placement as a part of a local school program.

h. Work cooperatively with people.

The Educational Program

Throughout this model reference has been made to the school's educational program. The educational objectives as they relate to this model must address themselves to the cognitive, affective and psychomotor domains.

Figure 3 illustrates the educational program as it relates to the student.

For purposes of this study special attention needs to be drawn to an often neglected part of the domains - employability skills.

Employability skills include knowledge about job interviews, filling out job applications, human relations, labor unions, and job attitudes.

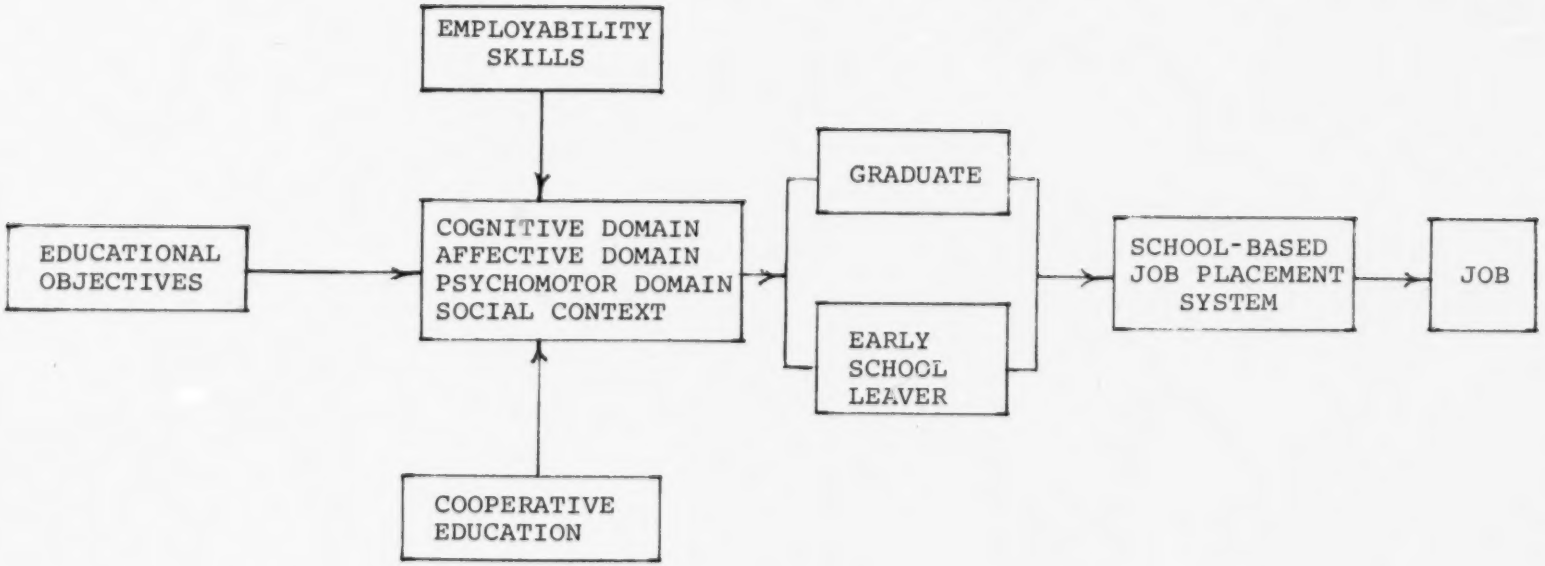


Figure 3

The Educational Program as it Relates to the Student

"The Job Entry Employment Preparation Program" (12) (JEEP) of the Pittsburgh Public School District and the "Work Experience Job Relations" (11) program of the Philadelphia Public School System are examples of existing employability skills programs.

The school administrator has three options to incorporate employability skills instruction into the educational program. They are: as a guidance function; integrated into an existing curriculum, such as social studies or a vocational program; or as a new course of study added to the school's curriculum.

Another part of the educational program requiring industrial contacts is cooperative education. The cooperative education coordinators and career placement specialists have different objectives for contacting industry. Industrial contacts are made for a school-based job placement system to find potential job openings for graduates and early school leavers. Cooperative education coordinators make industrial contacts to locate industries willing to cooperate with the school to provide extended educational experiences for students.

Follow-Up Component

The follow-up component focuses on the employee's (former student) job performance and the employer's assessment of that performance.

The purpose of this visit is to complete a questionnaire concerning both student and employer satisfaction. This information can be useful if future guidance is needed.

It is recommended that at least two follow-up visits be made by the career placement specialist, one within the first month of the student's employment and the second within six months. The number of future visits can be determined by evaluating the results of the first two visits.

Follow-up data can also be useful to school administrators to evaluate the content and method of the various instructional programs. In Pennsylvania the VEMIS can provide certain data which can be used for the evaluative process. This data is available to school personnel who are concerned with planning and up-grading secondary educational programs.

Feedback Component

Feedback is a means by which the career placement specialist obtains information from questionnaires. The collected data indicates how well the educational program prepared the student for the world of work.

The information is obtained from three groups of students. One group will be surveyed during the first year after leaving the educational system, the second group will be contacted during the third year and the third group will be surveyed during the fifth year after leaving school. These students will be randomly selected.

If the selected student is employed, the career placement specialist will make a personal visit to interview both student and employer. If the

selected student is not employed, then a personal visit or telephone call can be made to obtain the needed information.

SECTION III

MODEL IMPLEMENTATION

Units of operation for implementing a Pennsylvania school-based job placement system shall be based upon Bureau of Employment Security Labor Market Areas as shown in Figure 4.

The model is to have the Bureau of Employment Security document regularly all job openings within a labor market area through a personal employment visit.

The model is flexible enough to permit its adoption in large or small labor market area(s), rural or urban labor market area(s), large or small school district(s) and rural or urban school district(s).

To complete the implementation, all secondary schools in a labor market area should participate in the school-based job placement system. However, the model will work if one or several school districts cooperate with the Bureau of Employment Security within a labor market area.

Implementation Schedule

Target dates for implementing a school-based job placement system have to be established. The dates will be dependent

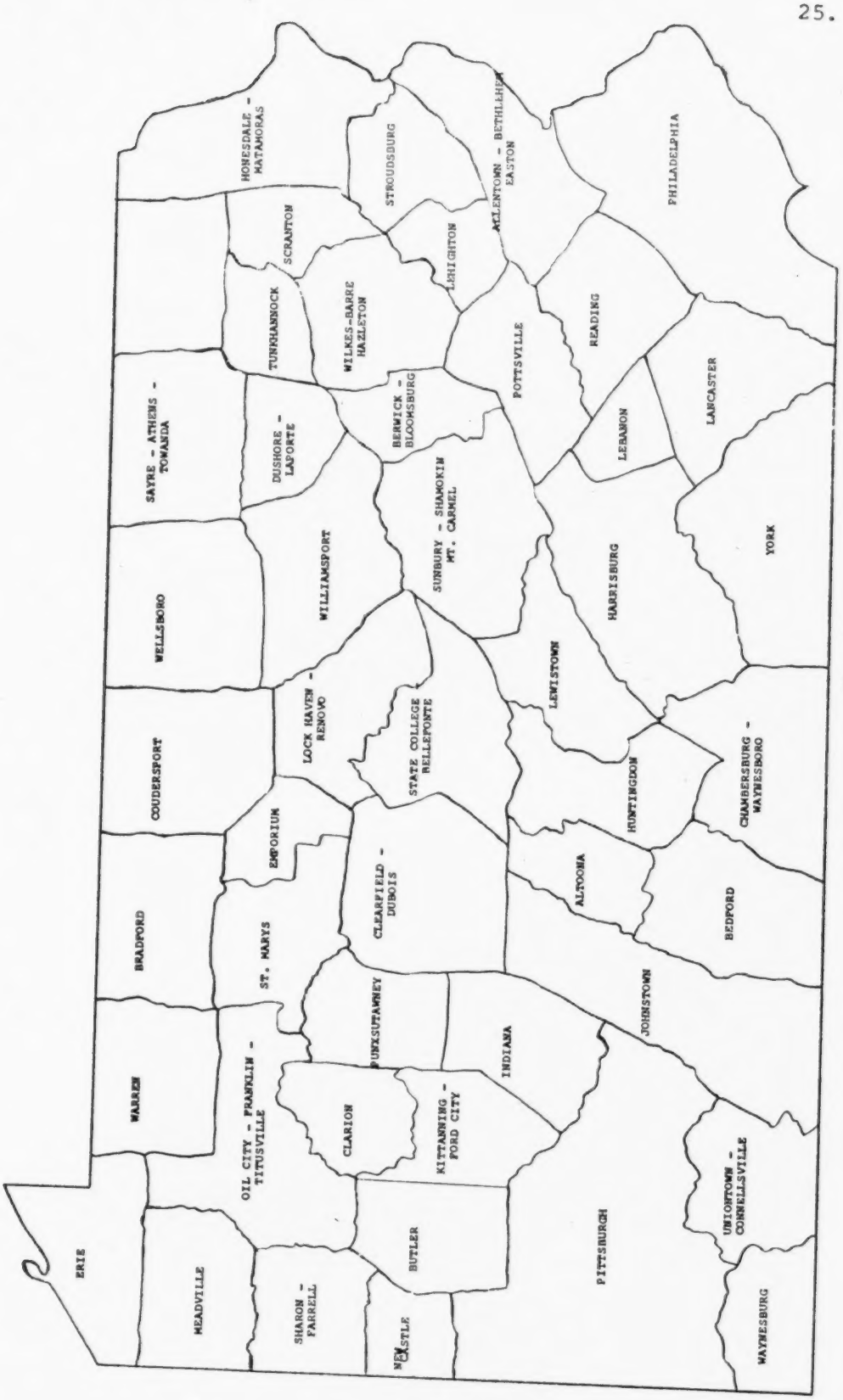


Figure 4
Labor Market Areas of Pennsylvania

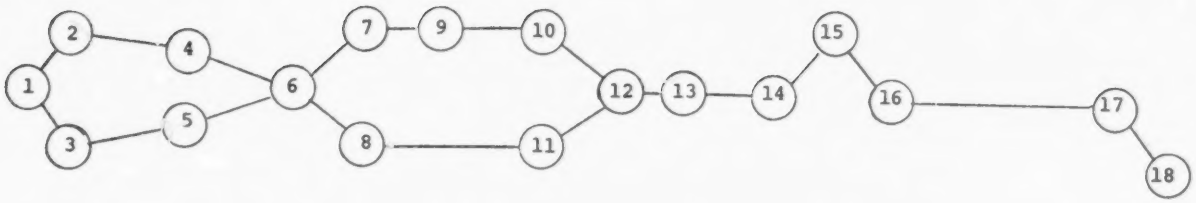
upon local constraints. Figure 5 represents a step-by-step procedure that can be used by a school district and the Bureau of Employment Security to cooperatively establish a school-based job placement system.

Implementation of the school-based job placement system for a particular geographic area would be dependent upon the financial, human, and physical resources of the area.

School's Administrative Procedures

Basically, the model requires a differentiated counseling staff. It may be possible for an individual within the counseling staff to be designated the career placement specialist. Each district will have to evaluate its own policies regarding the student load per counselor to determine whether it needs to add an additional individual to fill this position. However, by reorientating the pupil personnel services, one of the existing staff can assume the responsibility of a career placement specialist.

Since many individuals will need employment assistance for the entire year, it is believed the system should operate twelve months of the year.



1. School district superintendent(s) and manager of Bureau of Employment Security Labor Market Area discuss the School Based Job Placement Model.

2. School(s) district superintendent(s) review the model with his board.

3. Bureau of Employment Security reviews model.

4. Board of Education approves proceeding on a tentative basis.

5. Board of Bureau of Employment Security approves proceeding on a tentative basis.

6. School district superintendent(s) and Bureau of Employment Security manager review findings to date by their boards of directors, if agreement is reached, proceed.

7. School district prepares project proposal for funding of the Career Placement Specialist.

8. Director of Bureau of Employment Security prepares proposal for funding additional personnel.

9. Proposal approved by local boards of education.

10. Proposal approved by Pennsylvania Department of Education.

11. Proposal approved by Pennsylvania Department of Labor and Industry.

12. School district superintendent and manager of Bureau of Employment Security implement model.

13. Bureau of Employment Security personnel and Career Placement Specialist selected.

14. Specific guidelines developed.

15. In-service training for Career Placement Specialist, Bureau of Employment personnel and educational staff.

16. Implementation of guidelines (job development and student job matching)

17. Initiate follow-up and feed-back components.

18. Model in full operation.

Figure 5

Flow Chart For Implementing A
School-Based Job Placement System

Bureau of Employment Security Administrative Procedures

The designated personnel from the Bureau of Employment Security will follow their mandated policies.

Where there is more than one Bureau of Employment Security office in a labor market area, it becomes the responsibility of the district office to coordinate efforts.

Facilities Needed

The career placement specialist needs facilities to interview students in job placement assistance and to communicate with the Bureau of Employment Security and business and industry representatives. Since the major part of the career placement specialist's time will be used to interview students, he should be located in the school, possibly in or near the guidance suite.

In-Service Development of Personnel

In-service development meetings will be necessary to orient all concerned personnel about the need, purpose, operation, and procedures of how a school-based job placement system relates to the present programs in meeting the needs of students.

SECTION IV

STUDENT CAREER PLANNING AND JOB PLACEMENT ASSISTANCE

Introduction

Successful career placement must be based on an understanding of an individual's personal characteristics and the requirements of a particular job. Based on the understanding of supply and demand, the needs of both the employee and employer could be satisfied and balanced as the circumstances permit.

Serving as a facilitator between student job applicants and jobs, the career placement specialist, in a school system, is the one who should have appropriate information about the student's characteristics and the requirements of jobs.

The career placement specialist utilizes the relationship between student's personal characteristics and the required worker traits and helps make a right match. This is based upon an understanding and interpretation of the psychology of individual differences and the analysis of occupations. The rationale is clear: individuals differ in their aptitudes, interests, and personalities and occupations require varying amount and kinds of these characteristics. Different students should be assisted to enter different jobs.

Parsons explicated a three-step process through which a person goes in choosing a vocation:

> "(1) a clear understanding of [himself], [his] aptitudes, abilities, interests, ambitions, resources, limitations, and their causes; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; and (3) true reasoning on the relations of these two groups of facts" (10, p. 5).

High school students are not mature enough to understand themselves and lack the detailed information about the job market. It is therefore the career placement specialist who helps students compare their capabilities and dispositions with those demanded by jobs, and to make the best "matches". Parson's theory is not completely applicable to the whole process of vocational choice (14, pp. 102-103). However, for the placement purpose, the trait-and-factor theory is still valid.

The above statement leads to the question: What are the student personal characteristics that need to be known by the career placement specialist in order to assist the student in job placement and job matching? Individuals and groups differ in their aptitudes, interests, personality, constitution. heredity, physique, sex, age, race, and culture (16). Of these traits and factors, however, aptitudes, interests, and personality have been more extensively studied in relation to vocational behavior than any of the others (3, p. 26).

Accordingly, the answer to the above question will be focused on the discussion of aptitudes, interests, personality

and their related characteristics. Job placement personnel must consider these student characteristics when matching individual's with jobs.

Student Data Base

A career placement specialist and the designated personnel from the Bureau of Employment Security must establish a data bank containing certain student characteristics and traits. These characteristics are also the major required traits of a worker in the world of work (19, pp. 651-654).

I. General Educational Development

General educational development embraces those aspects of formal and informal education which contribute to general ability, including:

A. Reasoning development and ability to follow instructions.

According to the Dictionary of Occupational Titles there are six levels of reasoning development. For many high school students, their development should be something between level 3 and 4. Level 3 reads:

> Apply common sense understanding to carry out instructions furnished in written, oral or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations (19, p. 652).

Level 4 reads:

> Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form (19, p. 652).

B. Language development which includes reading and writing abilities.

C. Mathematical development.

II. Vocational Preparation

Vocational preparation includes vocational education in school, cooperative training station, work, and/or a vocational environment pertinent to a designated job. Vocational preparation could be indicated by:

A. The amount of time spent in learning a skill or trade such as mechanical drafting, autobody, etc. The amount of time can either be indicated by semester hour or simply by hour.

B. The amount of time spent in obtaining related information and knowledge of a skill or trade. The amount of time can either be shown by semester hour or simply by hour.

C. The achievement of performance in a certain skill area or a trade as tested by a standardized instrument.

D. The achievement of related information and knowledge pertinent to one's skill or trade as tested by a standardized instrument (19, p. 652).

III. Aptitudes

Super and Crites stress that general educational development and vocational preparation are records of present or past accomplishment. Aptitudes provide inferences concerning future learning or possible achievement. It refers to specific, factorially unitary behaviors which facilitate the learning of a task and which are relatively constant over time (15).

The Dictionary of Occupational Titles lists the following aptitudes as being important:

A. Intelligence: General learning ability. The ability to "catch on" or understand instructions and underlying principles. Ability to reason and make judgements. Closely related to doing well in school.

B. Verbal: Ability to understand meanings of words and ideas associated with them, and to use them effectively. To comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.

C. Numerical: Ability to perform arithmetic operations quickly and accurately.

D. Spatial: Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blueprint reading and in solving geometry problems. Frequently described as dimensions, or to think visually of geometric forms.

E. Form Perception: Ability to perceive pertinent detail in objects or in pictorial or graphic material; to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines.

F. Clerical Perception: Ability to perceive pertinent detail in verbal or tabular material. To observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation.

G. Motor Coordination: Ability to coordinate eyes and hands or fingers rapidly and accurately and quickly.

H. Finger Dexterity: Ability to move the fingers and manipulate small objects with the fingers rapidly and accurately.

I. Manual Dexterity: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.

J. Eye-Hand-Foot Coordination: Ability to move hand and foot coordinately with each other in accordance with visual stimuli.

K. Color Discrimination: Ability to perceive or recognize similarities or differences in colors, or in shades or other values of the same color; to identify a particular color, or to recognize harmonious or contrasting color combinations, or to match colors accurately (19, p. 653).

IV. Interests

Strong states:

Interest scores measure a complex of liked and disliked activities selected so as to differentiate members of an occupation from non-members. Such a complex is equivalent to a "condition which supplies stimulation for a particular type of behavior". i.e. toward or away from participation in the activities characteristic of a given occupation. Interest scores are consequently measures of drives (13, p. 142).

The Dictionary of Occupational Titles defines interests as "Preferences for certain types of work activities or experiences, with accompanying rejection of contrary types of activities or experiences" (19, p. 654). Guilford and others lists eight vocationally relevant interests and they are as follows:

A. Scientific

B. Social-welfare

C. Mechanical

D. Outdoor

E. Clerical

F. Business

G. Aesthetic-expression

H. Aesthetic-appreciation (8, pp. 1-38)

Each student job applicant's profile of the eight interests or his leading interest is meaningful to the career placement specialist.

V. Personality

Guilford states: "An individual's personality... is his unique pattern of traits." He then defines a "trait" as "Any distinguishable, relatively enduring way in which one individual differs from others" (7, pp. 5, 6). Holland proposes that "The choice of a vocation is an expression of personality" (9, p. 2). It is evident that the information of one's personality would be helpful for his job placement. In our culture, most people can be categorized as one of six personality types, namely, Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic. Each personality type embraces a number of occupations. Holland lists definitions of six personality types and their vocational preferences as follows:

Realistic: The model type is masculine, physically

strong, unsociable, aggressive; has good motor coordination and skills; prefers concrete to abstract problems; conceives of himself as being masculine and aggressive and as having conventional political and economic values. Persons who choose or prefer the following occupations resemble this type: airplane mechanic, construction inspector, electrician, filling station attendant, fish and wildlife specialist, locomotive engineer, master plumber, photoengraver, power shovel operator, power station operator, radio operator, surveyor, tree surgeon, tool designer.

Intellectual: The model type is task oriented, intraceptive, asocial; prefers to think through rather than act out problems; needs to understand; enjoys ambiguous work tasks; has unconventional values and attitudes; is anal as opposed to oral. Vocational preferences include aeronautical design engineer, anthropologist, astronomer, biologist, botanist, chemist, editor of a scientific journal, geologist, independent research scientist, meteorologist, physicist, scientific research worker, writer of scientific or technical articles, zoologist.

Social: The model type is sociable, responsible, feminine, humanistic, religious; needs attention; has verbal and interpersonal skills; avoids intellectual problem-solving, physical activity, and highly ordered activities; prefers to solve problems through feelings and interpersonal manipulations of others; is orally dependent. Vocational preferences include assistant city school superintendent, clinical psychologist, director of welfare agency, foreign missionary, high school teacher, juvenile delinquency expert, marriage counselor, personal counselor, physical education teacher, playground director, psychiatric case worker, social science teacher, speech therapist, vocational counselor.

Conventional: The model type prefers structured verbal and numerical activities and subordinate roles; is conforming (extraceptive); avoids ambiguous situations and problems involving interpersonal relationships and physical skills; is effective at well-structured tasks; identifies with power; values material possessions and status. Vocational preferences include: bank examiner, bank teller, bookkeeper, budget reviewer, cost estimator, court stenographer, financial analyst, IBM equipment operator, inventory controller, payroll clerk, quality control expert, statistician, tax expert, traffic manager.

Enterprising: The model type has verbal skills for selling, dominating, leading; conceives of himself as a strong, masculine leader; avoids well-defined language or work situations requiring long periods of intellectual effort; is extraceptive; differs from the Conventional type in that he prefers ambiguous social tasks and has a greater concern with power, status, and leadership; is orally agressive. Vocational preferences include business executive, buyer, hotel manager, industrial relations consultant, manufacturer's representative, master of ceremonies, political campaign manager, real-estate salesman, restaurant worker, speculator, sports promoter, stock and bond salesman, television producer, traveling salesman.

Artistic: The model type is asocial; avoids problems that are highly structured or require gross physical skills; resembles the Intellectual type in being intraceptive and asocial; but differs from that type in that he has a need for individualistic expression, has less ego strength, is more feminine, and suffers more frequently from emotional disturbances; prefers dealing with environmental problems through self-expression in artistic media. Vocational preferences include art dealer, author, cartoonist, commercial artist, composer, concert singer, dramatic coach, free-lance writer, musical arranger, musician, playwright, poet, stage director, symphony conductor (9, pp. 16-17).

The combining of two or more personality types, according to Holland, are called personality patterns. Different patterns are appropriate to different jobs. The identification of student's personality pattern would be helpful for the career placement specialist to assist his students in job placement.

VI. Physical Conditions

The physical conditions refer to the physical capacities a student has in order to meet the requirements of a job. The physical capacities or traits include such

factors as strength, climbing and/or balancing, talking, hearing and seeing. The specific physical conditions will vary for each job classification and be dependent upon many factors.

It is important that personal characteristics of student job applicants be known for the student as well as job requirements. The more the career placement specialist knows about student traits and job requirements, the better he will be able to assist his client in securing satisfactory employment. Most of these traits need to be better assessed by an instrument designed for secondary school students. The personality type and pattern, for example, could be assessed by an instrument, such as Holland's Vocational Preference Inventory. In practice, it would not be possible to measure all of these personal characteristics. Therefore, it will be the responsibility of the career guidance counselor with the assistance of the career placement specialist to direct, identify or collect this information.

The career guidance counselor should be able to identify those key traits by means of scheduled interviews or self-designed questionnaires. Moreover, the career guidance counselor should understand the theories and principles behind these personal characteristics and skillfully assist the career placement specialist in applying these theories and principles in many different live situations in order to assist students in job matching and job placement.

Job Data Base

In order to successfully interview individuals for job placement assistance there is information that must be known about the job. The

information pertaining to a job is sometimes classified according to a predetermined scheme.

Basic facts include the name of the company, address, telephone number, when to apply, the individual to see and how the person is to be contacted. Other pertinent information is the title of job, purpose of job, equipment and material used, job procedure and personal tools or special equipment needed.

It is also necessary to know certain job requirements such as the experience, education and abilities needed. Experience can be expressed in terms of manual or manipulative skills, speed and accuracy. Education may be either formal or informal, but it is all experiences contributing to the individual's reasoning development, alertness, initiative and adaptability. Abilities refer to the capability of the person to deal with people, data or things.

To further clarify the job data base the career placement specialist should know what the job demands in terms of the following abilities: recognition of similarities or differences in colors, field of vision, speaking and/or hearing, reaching, stooping, kneeling, climbing or lifting. Additional facts which should be known about the job include: atmospheric conditions (fumes, odors), hazards (mechanical, electrical, high places), noise, wet, extreme heat or cold, and environmental (inside, outside, both).

Other pertinent information includes rate of pay (hour, weekly, overtime), provisions for pay, hours of work (day, night) hours worked per week, minimum age, time limit to fill job opening, number of openings, need for driver's license (regular, chauffeur's), and employee services and benefits (medical service, vacation).

Matching Student Data Base With Job Data Base

The career guidance counselor should have a student profile that includes the following items: aptitudes, interests, personality, and physical conditions. These items are defined in the student data base section. When an individual seeks job placement assistance, the career guidance counselor should provide a student data profile.

The student data profile should be matched to a job data profile by the career placement specialist. The job data profile is defined in the job data section. This information is obtained by the Bureau of Employment Security from the employer.

COMPUTERIZED STUDENT CAREER PLANNING AND JOB MATCHING

Introduction

In many instances individuals select a career without regard to their interests or capabilities - they take a job because it is a way to "make some money." It is also possible that individuals select careers according to what their relatives or peers suggested. There are a number of valid ways in which individuals can choose their careers considering their personal characteristics.

In the student characteristics part of Section IV, Tyler states individuals differ in their aptitudes, interests, personality and constitution (11, p. 3) and Crites remarks that studies have been done on how aptitudes, interests and personality relate to vocational behavior (14, p. 16). If this is assumed to be a fact and students do not know their potentialities, then there exists a need for assistance in planning their careers.

Computerized student career planning and job matching are suggested means, through the use of the computer, to assist individuals in planning their occupational future. An attempt will be made to give a brief description of how computerized student career planning and job matching can be accomplished. The purpose of this system is to reveal more career possibilities than are now possible through the present job placement service offered in many schools.

In order to computerize a career planning and job matching system, it is necessary to compile student data, the existing job classifications as listed in the Dictionary of Occupational Titles and the current job openings. The purpose of this type of a system is to expose the student to a wide range of career alternatives and to identify the available career opportunities. Computerized job matching should be used as an aid in helping a student select employment and not the sole source for making the final job selection.

In designing a data-based job matching system many considerations must be taken into account. One consideration will be the selection of student traits that are important for employment and how these traits will be measured (i.e., intelligence, aptitudes and attitudes).

Another consideration would be to decide what types of job classifications and coding to use. An institution which is implementing a system could develop their own but this would take a considerable amount of research, time and money. The Dictionary of Occupational Titles provides a unique coding scheme that can be used. The jobs have been categorized into groups and classes which could be used by the students as the first criterion in selecting a job.

The question of what computer system should be used is an important one. First of all, computers and the professional staff required for operation and maintenance are expensive. For this reason, it may be more practical to rent time from a commercial computer company. An alternate would be to form a coop and develop a computer service department. The expense would be shared and the benefits could outweigh the expense because this department would be concerned with only work for the coop.

When all the considerations and questions are answered, then the important work of the actual design of a data base can take place.

The following is an attempt to describe a hypothetical job matching and career planning system. It must be kept in mind there are many of these systems either being developed or are on the market by private companies.

Computerized System

There are two phases to this system:

1. The phase in which the student develops his educational program toward a selected career.
2. The phase in which the student is ready to terminate his full-time educational career and is now matched to current employment opportunities.

Phase I--Career Planning

The Dictionary of Occupational Titles will be put on the computer disk file. This information will contain job titles, classifications and the DOT coding. This coding will be the key to all computerized matching.

Student Data

The student along with the career guidance counselor will develop the student data which will be entered in the computer and stored on disk. Some of the data contained on this file will be:

A. Student Social Security Number

B. Student Name

C. Student Address

D. Educational information such as

(a) Course(s) taken

(b) Grades

(c) Extracurricular Activities

E. Information relating to the student's career goals should also be included. A questionnaire will be completed by the student with assistance from the career guidance counselor. It should define general career interests of the student.

Computerized Educational Planning

The computer will match the career interests with the student data and DOT data to determine the career alternatives for the student and the training needed by the student to qualify for those alternatives. This will be given to the career guidance counselor and reviewed with the student to develop his educational program.

Phase II--Job Matching

Another type of data will be collected at this point. It will be the current openings in the job market. These jobs will be classified and coded according to the Dictionary of Occupational Titles.

Job data, as prescribed by the Pennsylvania Bureau of Employment Security, is compiled, placed in the computer and stored on the computer disk. This information becomes a daily account of the jobs that are currently available. This process and product are referred to as the "Job Bank."

Employment Questionnaire

When the student nears graduation or wants to drop out, the career guidance counselor reviews the progress with the student. The student then completes an employment questionnaire. This questionnaire will indicate a specific job classification in which the student would like to seek employment.

Knowing the prescribed capabilities of the student, the career placement specialist is now able to discuss with the student specific jobs that are currently available. Job codes which the student defines would be matched with the possible job openings in a geographic area.

Matching the information regarding current opportunities found in the job bank with the individual student's capabilities will identify current job openings recommended for a specific student.

Summary

What has been described above is a general outline of what a Computerized Job Matching System would do and it should be kept in mind it takes much work and requires a lot of time to develop and perfect this type of system.

At present, the Department of Labor and Industry of the Commonwealth of Pennsylvania is working on such a system.

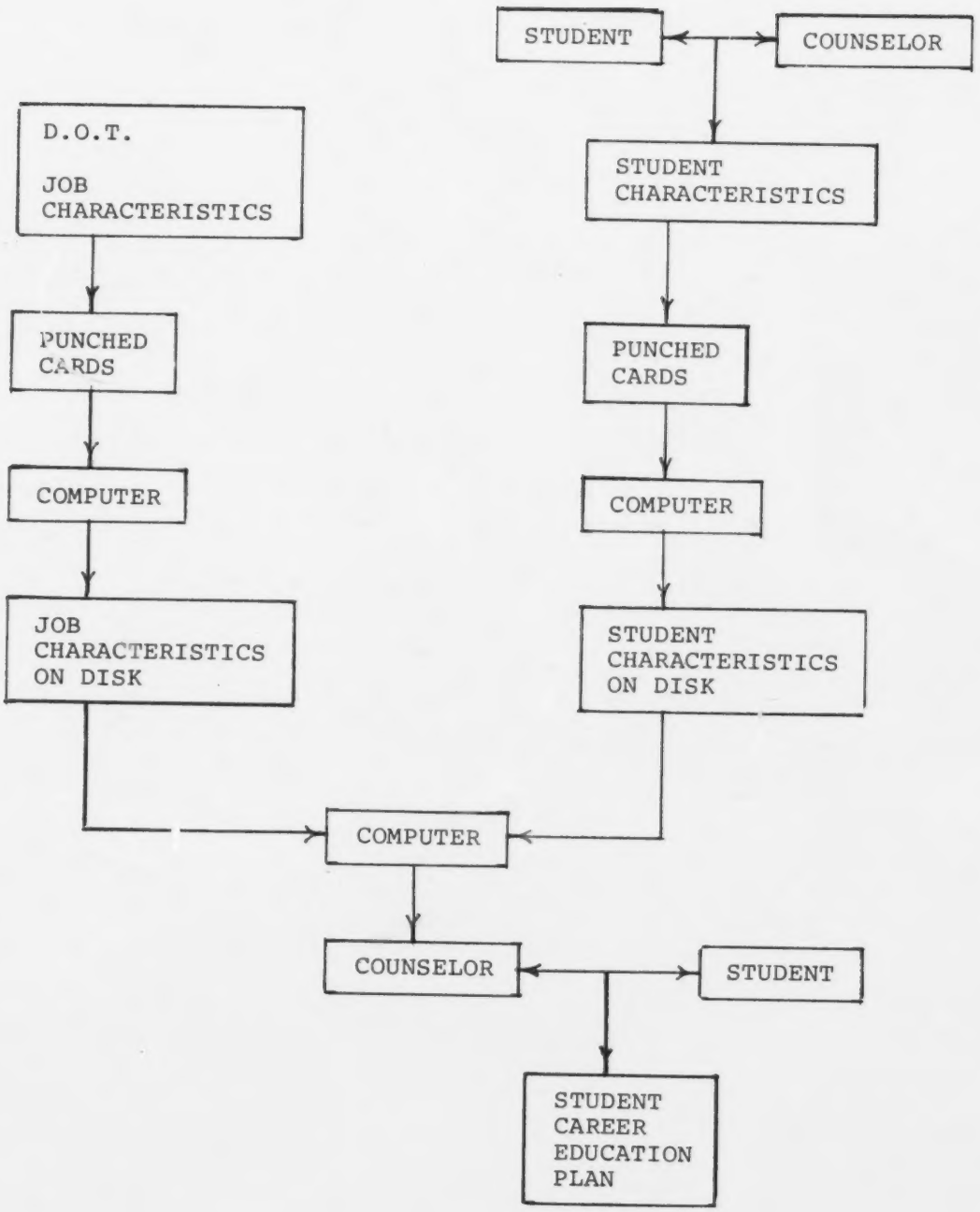


Figure 6
Computerized Career Planning

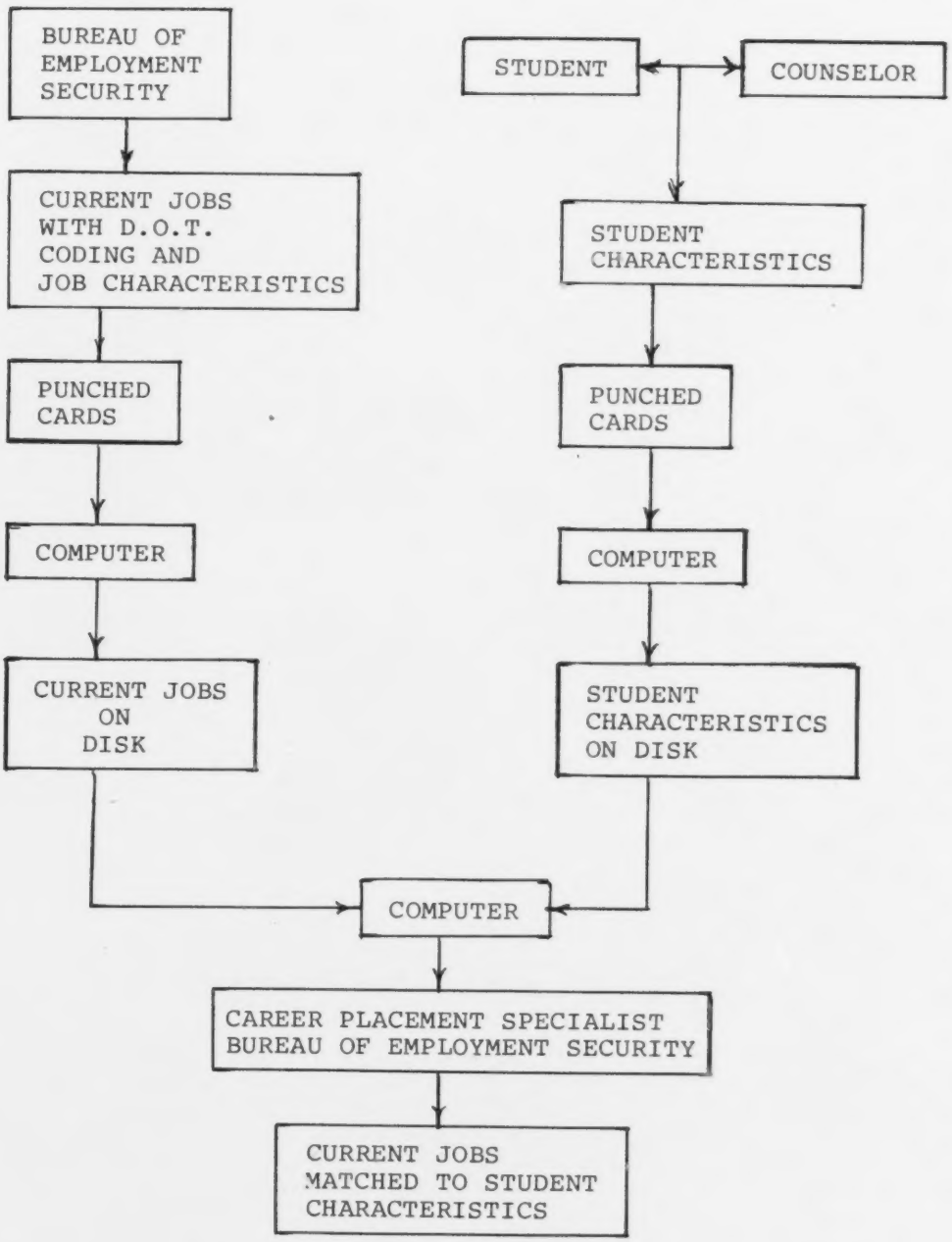


Figure 7
Computerized Job Matching

SECTION VI

EVALUATION

The effectiveness of a job placement service system should be measured by process and product evaluation.

It is hoped that an objective evaluation will be done comparing such things as unemployment data for students from a school using the model with school(s) not using the model. Comparisons should also include models in operation in varying economic and geographic areas.

Additional subjective and objective evaluation should be done by determining attitudes of students, employees, employers, parents, and educators.

An instrument should be designed to measure whether the objectives were met. Objectives to be measured would include personal contacts with employers, supplying a daily directory of pertinent job openings, developing jobs for students with special needs, cooperation of the school-based job placement personnel, interviewing students, the degree of success of assisting students in job placement, reviewing of employment trends and opportunities, referring of students by the career guidance counselor, the feedback and follow-up components, and attitude of employer-employee relationship.

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